

OPERATIONAL DYNAMICS

TP7135E

M.V. ARCTIC SEMINAR 1985: PLANNING AND ASSESSMENT REPORT

Prepared for
Transportation Development Centre
Montreal

Prepared by
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November, 1985

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DISCLAIMER

The contents of this report reflect the views of the authors and not necessarily the official views or policies of the Transportation Development Centre.

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17. Abstract This report describes the planning activities associated with the M.V. Arctic Seminar 1985 held in Montreal September 16-17, 1985 and sponsored by Transport Canada's Transportation Development Centre and Canadian Marine Transportation Administration in support of the Marine Transportation R&D Advisory Board. It also describes the seminar events and provides suggested guidelines for similar conferences in the future. An evaluation was made of the seminar through a telephone survey. From the results of this survey, it is concluded that the seminar achieved its objective of informing the marine community of the work covered by the M.V. Arctic scientific program and proved to be an effective medium for disseminating the results of major research programs.					
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17. Résumé Ce rapport traite du séminaire N.M. Arctic 1985 tenu à Montréal les 16 et 17 septembre 1985 et parrainé conjointement par le Centre de développement des transports, Transports Canada, et par l'Administration canadienne du transport maritime, à la demande du Conseil consultatif de la R&D en transports maritimes. Il décrit les préparatifs du séminaire, ainsi que les divers ateliers qui l'on composé, et suggère des lignes directrices pour l'organisation des séminaires de même nature à venir. Un sondage téléphonique a été fait auprès des participants; il a permis de démontrer que l'objectif fixé, soit informer les milieux intéressés par les transports maritimes du résultat du programme scientifique qui s'est déroulé à bord du navire, avait été atteint et que le moyen choisi pour cette diffusion, c'est-à-dire le séminaire, avait été efficace.					
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1. INTRODUCTION

1.1. Purpose

The M.V. Arctic Seminar 1985, held in Montreal on September 16 & 17, was the first systematic attempt to share with the Canadian Marine Community the experience gained in operating as ice class II vessel. As such it is important that the lessons learned in the course of planning such a venue be recorded for future reference. To that end, this report describes the planning and other activities surrounding the staging of the Seminar. It also presents:

- statistics on the seminar attendance,
- an evaluation of the seminar itself based on a sampling of interested parties and attendees,
- a set of suggestions for consideration in planning future seminar type information dissemination strategies.

1.2. Background

The MV Arctic seminar was intended to highlight the experience and confidence gained from the MV Arctic program of research and to enhance the interest in the future of arctic commercial shipping. To those ends, an audience of senior executives and decision makers were invited from the Canadian marine community so as to initiate the process of disseminating this experience. The subject matter of the seminar, although technical, was presented in a manner which addressed and stimulated the varied interests of the high level audience in an effort to inspire their confidence in the commercial use of ships in the high arctic.

Recognition of the multi-disciplinary and inter-sectorial nature of the interest in the subject suggested that the Marine Advisory Board (MAB) would be the most appropriate forum for holding the Seminar. An important consideration which prompted the choice of the MAB in this connection is its inter-sectorial composition and the government role is seen to be one of promoting technology transfer in support of national interests. This is the role of government with respect to the M.V. Arctic Scientific Program. The ultimate recipients and users of the results are to be found in the private sector and this transfer process is readily achieved under the long established broad umbrella of the MAB.

2. STRUCTURE OF THE SEMINAR

2.1. General

The structure of the seminar is described below by reference to the mechanisms developed to carry out the various activities required to execute the seminar plan.

2.2. Planning Schedule:

The schedule, see Attachment 1, was constructed to display the activities surrounding the seminar and to show the interdependency of one activity on another. It provided for the overall design, structure, agenda, participation and location of the seminar and for obtaining approval from TDC, CMTA, MAB to the plan. Consideration was given to such matters as:

- the fact that the purely technical content of the various subjects had to be interpreted for presentation in a manner that sufficiently addressed the interests of the audience.

- the use of a panel format so that there could be audience participation as well as the participation of panel members with a detailed knowledge of the subject matter presented by the speaker.

- the need to attract the senior members of the marine community, and the understanding that the seminar could not expect more than two days of time from such persons.

- sufficient and precise information had to be made available to the invitees beforehand so that they may appropriately judge the worth to their organization of their attendance.

- a personal approach from a sufficiently senior government official was required to obtain the desired response.

2.3. Report List:

A List of the reports which best represent the scope of the MV Arctic programs. The list was compiled in cooperation with TDC, Marine Planning and Finance, Coast Guard Northern and Canarctic Shipping Company Limited under the following subject headings:

- Commercial Arctic Ship Development Program
 - . Data Collection and Analysis
 - . Ice Transiting Performance
 - Transiting - Continuous
 - Transiting - Ramming

- . Structural Loading
 - Local Loads
 - Global Loads
 - Bow Structure
- . Machinery and Systems
 - Propulsion Systems
 - Materials
- Arctic Environment Development Program
 - . The Living Environment
 - . The Ice Environment
 - Ice Property Definition
 - Ice Distribution and Movement
 - Ice Failure Mechanics
- Arctic Operations Development Program
 - . Navigation
 - Close-Range Ice Hazard Development
 - . Shiphandling
 - Manoeuvring
 - Cargo Handling
 - Management of Shipboard Operations
- Safety/Accommodation

All the above reports are listed in detail in the brochure "M.V. Arctic : A Research Record 1978 - 1984, TP6791".

2.4. Master Dissemination List:

This list, see Attachment 2, identified the Government departments and private sector organizations who have a direct or indirect interest in arctic commercial shipping. It formed the basis for selecting seminar invitees and for forecasting quantities of reports required.

Prior to the seminar date there were certain restrictions as to who should receive certain reports. The classification noted in the second column of Attachment 2 is as follows:

- R1 Selected government departments and Canarctic Shipping Ltd. would receive all restricted reports.

- R2 The three joint venture shipowners in the MV Arctic consortium and the five consultants involved in the 1979-1981 scientific program would receive the five detailed data analysis reports.

The process by which other organizations can obtain reports, and particularly the restricted reports, is fully described in the brochure TP6791 referred to in para 2.3.

2.5. List of Invitees:

In an attempt to bring the experience gained in arctic commercial shipping through the M.V. Arctic project directly to decision makers, the list of invitees, see Attachment 3, was composed of senior level executives. These people were selected from the master dissemination list and from the advice of Transport Canada. The List of Invitees identifies the person(s) proposed to be invited from government and industry and identifies to which segment of each group the invitee belongs. The list is made up as follows:

Federal Government	33
Terr/Prov Govts	6
U.S. Government	2
Private Sector	136

TOTAL	177

Based on an anticipated acceptance rate of 80% it was expected that about 140 persons from the above total plus the organizers would attend. In the event there were 112 attendees plus the organizers. An approximate ratio of 1:4 for Government:Industry was maintained as a desirable audience composition.

2.6. Advance notice:

This notice, see Attachment 5, was sent out in late June to permit invitees to plan their September calendar. The notice was in both official languages.

2.7. Formal invitation:

This invitation, see Attachment 4, was delivered in late August (in some cases by courier). It included as attachments a preliminary program for the seminar, a synopsis of the presentations and a list of invitees. The invitation was signed by the Administrator, Canadian Marine Transportation Administration and was available in both official languages.

2.8. Seminar Agenda:

The seminar agenda included: the technical sessions necessary to present the findings of the MV Arctic research program; sessions describing the environment (geographic, political, social and economic) in which the ship operates; and, sessions describing the challenge of the future for marine transportation in the Canadian Arctic. To achieve an appropriate and uniform tone for all the sessions, each speaker, moderator and panel member was provided with appropriate briefing documents (Attachment 6) and a dry run of a major portion of the seminar was conducted.

2.9. Package distributed to attendees at seminar:

This package included:

- Program (Attachment 7)
- Synopsis of Presentations (Attachment 8)
- Invitations to reception and dinner (Attachment 9)
- Name tag (Attachment 10)
- Question card (Attachment 10): These cards were used extensively at the end of each panel-supported presentation. By insisting on written questions the moderators were able to retain control of the question period and also have a written record of the questions asked for future reporting.
- List of attendees (Attachment 11). It was observed that this list was read with interest by most of the attendees as soon as it was made available to them.
- TP6110 Review of Transport Canada Icebreaking Trials, 1969-1984,
- TP6791 M.V. Arctic: A research record 1978-1984 (incorporates the extensive report list prepared for the seminar).
- TP3855 Ships Navigating in Ice: A Selected Biography Volume 2, 1980-1984.
- TP6345E MV Arctic Scientific Program: 1979 - 1981 Performance Review.

2.10. Evaluation Questionnaire:

A telephone survey, see Attachment 12, was made of selected groups invited to the seminar. This form of survey was selected in order to minimize both the time and impact on those being contacted. The nature of the questions was such as to invite a relatively free exchange of views. This survey was conducted during the month of October, 1985.

2.11. Speaker's certificate:

The people who put valuable time and effort into preparing and delivering their presentations had to be recognized for this most important contribution to the success of the seminar. Therefore a simple memento, see Attachment 13, was presented to each speaker to express Transport Canada's appreciation. Eight certificates were prepared and framed.

2.12. Post-seminar Correspondence:

There were many form letters, see Attachment 14, developed to support the various post-seminar communications. They were:

- Letter accompanying the speaker's certificates.
- Letter to attendees transmitting the Seminar proceedings.
- Letter to absentees transmitting the Seminar package.
- Letter to non-acceptees transmitting the M.V. Arctic brochure.
- Letter to non-invitees transmitting the M.V. Arctic brochure.

In addition, non-invited members of the MAB were provided with Seminar packages.

3. RESULTS OF SEMINAR EVALUATION

3.1. General

The set of questions used to evaluate the seminar was put to three groups of people: attendees who were actually invited, attendees who were replacing someone, and people who declined to attend and did not send a replacement. In each case the sampling was 25 %. The questions and the results are described below.

3.2. Questions to attendees actually invited

Question 1. Was the substance of the seminar of value to your organization?

All the responses stated that the seminar was useful to the organization. Respondee stated that the seminar:

- provided information on research that the attendees were unaware of,
- provided a forum for meeting people with like interests,
- was everything that the advance information presented it as and more.

Question 2. Do you think that the format of the seminar, especially its attempt to limit attendance to senior people, is appropriate for the dissemination of findings of major research programs?

Respondee largely felt that the correct audience was targeted. Technical people expressed the concern that the sessions were too technical for the non-technical people present. Non-technical attendees expected the sessions to be technical and, although they did not completely understand many of the details, they felt that they got a good overview of the programs findings.

Question 3. Do you have any other comments you wish to offer on the seminar?

Respondee offered criticism in two areas as follows:

Content

Commercial information on the ship's operation and maintenance should have been more detailed. (This comment was repeated a significant number of times)--

Technical reports should have been distributed before the seminar for study.--

In view of the fact that the evaluation of the ship was done using data collected five years ago, the seminar should have been held in 1983.

Format

Would have liked to have dialog from the floor during question period rather than written questions.--

The moderator should have given the names of the originators of the questions.

The lunch hour should have been longer, or the service better so as not to be late for the afternoon sessions.

For senior people, a single day format would have been better

Would have liked more free time.

Seminar may have been preaching to the converted.

3.3. Questions to attendees replacing an invitee

Question 1 See question 1 above.

Question 2. Do you think that the format of the seminar is appropriate for the dissemination of findings of major research programs.

Yes, decidedly so.

Question 3. You replaced Mr. --- as an attendee for your company. In order to assist us to direct material to the appropriate person, should your name replace Mr ---- on our lists.

With one exception all respondees said that the original invitation was sent to the right person and that future mailings should continue to be directed to that person.

3.4. Question to invitees not attending and not replaced.

Question: You were not able to attend the recent MV Arctic seminar given by Transport Canada. In order to assist us in planning future events of this nature may we know if your inability to attend stemmed from a conflict in dates or from some other reason?

Only one person felt that the seminar topic had a low priority with his organization and hence did not attend. All other respondees would have attended if there had not been a conflict in dates or, in two cases family emergencies. Of the group contacted one-third tried to send a replacement but the notice was too short for the replacement to attend.

3.5. Conclusion

The general measure of the success of the seminar is best expressed through a sampling of quotes from the respondees as follows:

- excellent idea
- best thing since sliced bread for Arctic marine
- right audience
- well conceived

- informative
- documentation excellent
- better than expected.

There was only one serious negative comment and that was given to be a consideration for future events. It was that there be a better balance between the commercial information available for a particular line of research and the technical information given. People suggesting this did recognize that it might be impractical in light of commercial competition.

Several of those called also urged that events of this nature be held as soon as possible after the completion of a program of research so as not to dilute the timeliness of the information presented.

Future events using this format would be welcomed by the private sector as a method of ensuring details of major research programs are evenly disseminated. It was strongly urged, however, that a one-day condensed event would be more attractive to a senior audience, with supplementary sessions for a technical audience.

4. GUIDELINES FOR PLANNING FUTURE EVENTS OF THIS NATURE

4.1. General

The results of the seminar evaluation demonstrate that this method of information dissemination is a very effective one from the point of view of both the public and private sector. In the event that there will be other such seminars held in the future, it is appropriate to document here various improvements, changes or cautions that might be applied to these events. Items to consider are given below.

4.2. Seminar Agenda

The agenda for a high level seminar should be structured in such a way as to expect no more than one day of attendance from an invited company's senior executive, vice-president and above. If the seminar demands more than a single day, then the content of its first or last day should address the senior executive's interests with the remaining time devoted to the interests of his company's specialist and technical staff.

4.3. Lead times

The planning time for the event was too short. In a seminar such as this where there are three agencies with a vested interest in the organization and planning, it would be more appropriate to start planning for the event at least eight months and, if possible, twelve months in advance so that the necessary consultations and approvals of all parties may be sought on a more relaxed basis which would ensure all inputs are considered. Additionally there are few hotels available on such short notice. Of the 11 hotels contacted only three responded and of these three only one was suitable. The services of the Greater Montreal Convention Bureau are invaluable in identifying available hotel facilities or, if none are available, providing facilities at the Montreal Convention Centre. (Palais de Congrès)

4.4. Distributed Information

The program distributed in advance of the event should be identified as preliminary and an announcement to that effect should be made by the seminar chairman at the beginning of the event. Many attendees brought the advance program with them and were confused as they followed an obsolete program. The formal invitation should follow swiftly after the advance notice and at least two months prior to the seminar.

4.5. Registration Facilities

The invitation list should be computerized and a computer should be available at all times to track responses and substitutions of those attending. This would include a computer for use at the registration desk on the days of the event.

4.6. Translation

Both documentation and simultaneous translation policies for a seminar should be addressed at the earliest opportunity in the planning cycle. If such decisions are made piece meal after work is in process, there is risk of considerable additional cost, unrealistic demands are put on resources used for translation, and planned printing schedules are disrupted.

4.7. Conference rates at hotels

The government rate for hotel living accommodation is not available to people attending conferences in the hotel. A seminar rate about 30% above the government rate can be expected as standard practice in the hotel industry. Furthermore, if dining arrangements are part of the seminar agenda, the organizer will be expected to guarantee the number of people to be catered for at each meal.

4.8. Briefing of Speakers

This exercise, together with a careful review of the speakers' material, is absolutely necessary if the theme of a seminar is to be adhered to. These activities ensure consistency in the level of the presentations and permit the seminar chairman to control the overall flow and timing of seminar events.

4.9. Seminar Transactions

A strong plea was made by the audience for post-seminar proceedings. In anticipation of this and other records, the complete seminar must be taped, using two tape recorders for fail-safe reasons. It should be noted, however, that simultaneous translation must not be recorded as a condition of the translator's contract. Photographs of the conference room layout, permanent displays and speakers are also a valuable record.

5. FACTS AND FIGURES

5.1. Seminar Statistics:

Number of persons invited	177	(government 39 industry 136)
Number of persons accepting	118	(acceptance rate of 67%)
Number of persons attending	112	(government 35 industry 77)

5.2. Seminar Principles and Organization

CMTA	Mr. R.A. Quail	(AMTA)
	Mr. A. Gagnon	(DMPF)
	Mr. W. Ellwood	(CMRD)
MAB	Dr. P. Camu	(Chairman)
TCRD	Mr. R. Mayes	(DGRD)
	Mr. R. Bertrand	(TDC)

5.3. Contractors Team

Seminar Coordinator	(Mr. T.H. Peirce)
Planning Assistant	(Mrs. T.K. Gillies)
Technical Assistant	(Miss J.C. Peirce)
Registration Assistants	(Mrs. M.D. Decker)
	(Mrs. B.M. Doble)
	(Miss M.E. Peirce)
Correspondence Assist.	(Mrs. D. Lidstone)
Facilities Assistant	(Mr. H.P. Decker)
Equipment Assistant	(Mr. P. Seguin)

5.4. Main Suppliers

Facility Selection	Greater Montreal Convention Bureau P.O. Box 889, Place Bonaventure Montreal, Que, H5A 1E6 (514) 871-1129
Facility Used	Four Seasons Hotel 1050 Sherbrooke St. W. Montreal, Que. H3A 2R6 (514) 284-1110
Audio/Visual Equipment	TELAV Services Inc. 90 Montee de Liesse Montreal, Que. H4T 1N4 (514) 340-1986
Translation Equipment	International Simultaneous Translation Service (ISTS) 90 Montee de Liesse Montreal Que. H4T 1N4 (514) 340-1821

Translation Personnel	Translation Bureau Official Languages Conference Section Special Operations Branch Secretary of State Ottawa, Ont. K1A 0M5 (613) 996-0921
Printing	Impressions Graphiques MBM Ltee. 2100 Drummond St., Suite 105 Montreal. Que., H3G 1X1 (514) 842-6867
Portfolios, etc.	Le Royer & Fils Inc. 339 Boul. Wilfred Laurier St. Lambert, Que., J4R 2L1 (514) 465-9497
Arctic Display Module	Indian & Northern Affairs Canada Les Terrasses de la Chaudiere Hull Que., K1A 0H4 (819) 997-0013 (J. Fowler)
Marine Display Module	Transportation Development Centre Complex Guy Favreau West Tower, Suit 601 200 Dorchester Blvd. W., Montreal Que., H2Z 1X4 (514) 283-0045 (M. Therrien)
Ship Model, Flags etc.	FedNav Ltd. Suite 2600 600 de la Gauchetiere W., Montreal Que., H3B 4H3 (514) 878-6618 (A. Burnett)

Task & Item		MONTH		March		April		May		June		July		August		September																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
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MASTER DISSEMINATION LIST

Attachment 2

ORGANIZATIONS	RESTRICTED REPORT PACKAGE	ATTEND SEMINAR	NUM.	REPORT LIST
Seminar Principals				
CMTA	R1	X	1	X
MAB	R1	X	1	X
TC R&D	R1	X	1	X
Transport Canada				
CMTA	R1	X	1	X
Research & Development	R1	X	1	X
TDC	R1	X	1	X
Marine Planning	R1	X	2	X
Cdn Coast Guard	R1	X	1	X
TDC Library				X
CCG Fleet Systems	R1	X	1	X
CCG Northern	R1	X	2	X
CCG Ship Safety	R1	X	1	X
CCG Communications		X	1	X
CCG Research	R1	X	1	X
Ports Canada				X
Northern Transportation Co		X	1	X
Canadian Transport Comm				X
C.N. Marine		X	1	X
St. Lawrence Seaway Auth				X
Pilotage Authorities				X
Auditor General				X
Department of Communications				
Radar Research & Dev		X	1	X
Energy Mines and Resources				
Can Centre for Remote Sensing				X
C.O.G.L.A.		X	1	X
N.E.B.		X	1	X
Polar Continental Shelf Proj				X
Canmet				X
Environment Canada				
AES Ice Centre		X	1	X
Engineering Branch, Marine				X
External Affaires				
Economic & Trade Branch		X	1	X
Fisheries and Oceans				
Ocean Science		X	1	X
Cdn Hydrographic Service				X
Bedford Inst. of Oceanography				X
Min of State for Science & Technology		X	1	X
Indian & Northern Affaires				

MASTER DISSEMINATION LIST

Attachment 2

ORGANIZATIONS	RESTRICTED REPORT PACKAGE	ATTEND SEMINAR	NUM.	REPORT LIST
Northern Affairs Program		X	1	X
Northern Res. & Econ. Plan.		X	1	X
National Defence				
Research & Development	R1	X	1	X
Def. Research Est. Atlantic				X
National Research Council				
Laboratories Executive		X	1	X
Institute of Marine Dy.	R1	X	1	X
Building Research Division				X
CISTI				X
Hydraulic Dept				X
Nat Science & Eng. Research Council		X	1	X
Department of Public Works				
Marine Directorate				X
Regional Industrial Expansion				
Marine Directorate		X	1	X
Supply & Services				
Marine System Branch				X
Bureau of Management Con				X
Treasury Board				
Program Branch (Trans)		X	1	X
N.W.T.		X	1	X
Yukon		X	1	X
Provinces				
Nfld & Labrador		X	1	X
Nova Scotia		X	1	X
Ontario				X
Quebec		X	1	X
International				
U.S. MARAD		X	2	X
Seminar Moderators				
TDC		X	3	X
CCG		X	1	X
Shipowners				
Algoma Central Marine				X

MASTER DISSEMINATION LIST

Attachment 2

ORGANIZATIONS	RESTRICTED REPORT PACKAGE	ATTEND SEMINAR	NUM.	REPORT LIST
C.P. Ships				X
Canadian Steamship Lines Ltd.	R2	X	1	X
Canarctic Shipping Ltd.	R1	X	2	X
Clark Traffic Service				X
Cogema				X
Dom. Marine Assoc/CSA		X	1	X
Fed. Commerce & Nav.	R2	X	1	X
Genstar Marine				X
Gulf Canada				X
Halco Inc		X	1	X
Imperial Oil				X
Irving Oil				X
Manchester Liners				X
March Shipping				X
Misener Transportation		X	1	X
N.M. Paterson & Son		X	1	X
Nfld Steamships Ltd				X
Northumberland Ferries				X
Papachristidis Maritime Inc.				X
Shell Canada				X
Shipping Federation of Canada		X	1	X
Sofati/Soconav		X	1	X
Texaco Canada				X
Transworld				X
U.L.S. Int'l (Canada)	R2	X	1	X
Shipbuilders				
Allied Shipbuilders				X
Bell-Aire Shipyards				X
Burrard Yarrows		X	1	X
Can. Ship. & Repairs Assoc.		X	1	X
Cdn. Shipbuilding & Eng. Ltd.		X	1	X
Davie Shipbuilding		X	1	X
Marine Industries		X	1	X
Marystown Shipyards				X
Montreal Ship Repairs				X
Port Weller		X	1	X
Purvis Navcon Shipbuilders		X	1	X
Saint John Shipbuilding				X
Vancouver Shipbuilders		X	1	X
Engine Builders				
Brown Boveri TRM Ind.				X
G.E.C.Diesels Inc				X
J & R Weir Ltd.				X
MAN Canada		X	1	X
Peacock Inc.				X
Pratt & Whitney Canada		X	1	X
Sulzer Canada		X	1	X
Research Org's				

MASTER DISSEMINATION LIST

Attachment 2

ORGANIZATIONS	RESTRICTED REPORT PACKAGE	ATTEND SEMINAR NUM.	REPORT LIST
Alberta Research Coun.			X
B.C. Research		1	X
C-Core	X	1	X
C-Fer	X	1	X
N.S. Research			X
Ontario Research			X
Oil & Gas Companies			
Arctic Petroleum Op. Assoc	X	1	X
Can Gas Association	X	1	X
Cdn Petroleum Assoc.	X	1	X
Canterra Resources	X	1	X
Eastern Petroleum Operators Assoc	X	1	X
Dome/Canmar	X	1	X
Esso Resources	X	1	X
Gulf Canada Resources	X	1	X
Independent Petroleum Assoc	X	1	X
NOVA: An Alta Corp.			X
Panarctic Oils Ltd.	X	1	X
Petro Canada	X	1	X
Polar Gas Project	X	1	X
B.P. Exploration			X
Bow Valley Offshore/Husky			X
Chevron Canada			X
Mobil Oil Canada			X
SOQUIP			X
Shell Canada Resources			X
Texaco Resources			X
Mining Companies			
Baffinland Iron Mines	X	1	X
Borealis Exploration	X	1	X
Brinco			X
Cominco	X	1	X
Echo Bay			X
Eldorado			X
Falconbridge Nickel Mines			X
Hudson Bay Mining	X	1	X
Inco			X
Iron Ore			X
Kidd Creek	X	1	X
Mining Assoc of Can.	X	1	X
Nanisivik Mines	X	2	X
Noranda	X	1	X
N.W.T. Chamber of Mines			X
Quebec Cartier			X
Teck Corp			X
Uran Gesellschaft			X
Westmin Resources	X	1	X
Yukon Chamber of Mines			X

MASTER DISSEMINATION LIST

Attachment 2

ORGANIZATIONS	RESTRICTED REPORT PACKAGE	ATTEND SEMINAR	NUM.	REPORT LIST
Universities				
Alberta				X
Assoc. of Cdn Universities		X	1	X
Coll. of Fisheries and Nav.				X
Dalhousie		X	1	X
Laval				X
McGill				X
Memorial		X	1	X
Montreal				X
N.S. Nautical Institute				X
Toronto/York				X
U.B.C		X	1	X
Financial				
Bank of Nova Scotia		X	1	X
Bank of Montreal		X	1	X
Cdn Bankers Assoc.		X	1	X
Cdn. Imp. Bank of Comm,		X	1	X
McLeod, Young & Weir		X	1	X
National Bank of Canada		X	1	X
Royal Bank		X	1	X
Royal Trust		X	1	X
Toronto-Dominion Bank		X	1	X
Insurance				
Cdn Board of Marine Underwrit.		X	3	X
Osborn & Lange		X	1	X
Reed Stenhouse		X	1	X
Tomenson Saunders		X	1	X
Classification Societies				
Amer. Bureau of Shipping		X	1	X
Det Norske Veritas (Can.)		X	1	X
Lloyd's Register of Shipping		X	2	X
Arctic Consultants				
Acres Consulting		X	1	X
Albery, Pullerits, Dickson	R2	X	1	X
Arctec Canada Ltd	R2	X	2	X
Arctic Offshore Design		X	1	X
Bruneau Resource Management				X
Camat International		X	1	X
Central Design & Drafting				X
Cleaver & Walkinshaw				X
Coldstream Maritime		X	1	X
D.F. Dickins		X	1	X
Dalcor				X
Davis Engineering		X	1	X
Donald Carter				X
East-West Engineering				X

MASTER DISSEMINATION LIST

Attachment 2

ORGANIZATIONS	RESTRICTED REPORT PACKAGE	ATTEND SEMINAR	NUM.	REPORT LIST
Evans, Yeatman & Endal				X
Eyretechnics				X
Fenco/Lavalin		X	1	X
GasTops Ltd		X	1	X
Geotech				X
German & Milne Inc.	R2	X	1	X
German Marine Ltd.				X
H.J. O'Connell Ltd.		X	1	X
Hermann A.R. Steltner				X
Ice Engineering				X
Int'l Paints (Canada)		X	1	X
MPB Technologies				X
Marine Design Assoc				X
Martec		X	1	X
Melville Shipping	R2	X	2	X
Monenco				X
Nordco		X	1	X
Norland Science & Eng.		X	1	X
Peirce Operational Dyn.	R2	X	6	X
Peter S. Hatfield Ltd				X
Robert Allan Ltd				X
Saint John Marine Consultants		X	1	X
Swan Wooster		X	1	X
Talbot, Jackson & Assoc.				X
Tower Arctic Ltd		X	1	X
Versatile Vickers		X	1	X
W.F. Baird				X
Wartsila Arctic		X	1	X
Watts, Griffiths & McOuat				X
Instrumentation				
Cdn Astronautics Ltd				X
Decca				X
Hermes				X
Interra Tech Ltd				X
Kelvin Hughes/SI TEX				X
Leigh		X	1	X
Litton				X
Marconi				X
Miller Communication Systems				X
Muirhead Systems				X
Nortech Surveys				X
Offshore Surveys				X
Siemens				X
Spar				X
Sperry		X	1	X
Westinghouse				X
Weir Jones Eng		X	1	X
Marine Press				
Seaports & the Shipping World		X	1	X

MASTER DISSEMINATION LIST

Attachment 2

ORGANIZATIONS	RESTRICTED		
	REPORT PACKAGE	ATTEND SEMINAR	NUM. LIST
Cdn Shipping and Marine	X	1	X
Oilweek	X	1	X
Northern Miner	X	1	X
Offshore Resources	X	1	X
Professional Assoc			
Arctic Inst. of N.A.	X	1	X
Baffin Region Inuit Assoc.			X
Cdn Arctic Resources Comm.			X
Cdn Instit. of Marine Engineers	X	1	X
Cdn Maritime Law Assoc.	X	1	X
Inuvaluit Dev. Corp.	X	1	X
Kitikmeot Inuit Assoc.			X
Nunais Corp.			X
MAB			
Ocean Indust. Devel. Office	X	1	X
Seatronics Technologies Ltd.	X	1	X

LIST OF INVITEES

ORGANIZATIONS	PERSON	POSITION	PART
SEMINAR PRINCIPALS			
C.M.T.A.	R.A. Quail	AMTA	S
M.A.B.	P. Camu	Chairman	S
T.C. R&D	R. Mayes	DGRD	S
GOVERNMENT INVITEES			
Transport Canada			
CMTA	M Brennan	MDAP/M	
TC R&D	M. Brenckmann	DRPD/X	
TDC	N.E. Rudback	ED/TDC	
Marine Planning	A.P. Gagnon	DMPF	
" "	W. Ellwood	CMRD/M	
CCG Fleet Systems	J.Y. Clarke	DGFS/M	
CCG Northern	C. Stephenson	DCGN/M	
" "	J. Grinstead	CGNS/M	
CCG Ship Safety	J Hornsby	DGSS/M	
CCG Aids & Waterways	T.J. Stephen	A/DGAW/M	
CCG Telecom & Electronics	B.B. Borodchak	DGTE/M	
CCG Planning & Prog.	G. Boucher	A/DCGM/M	
Northern Transportation Co	P. Preville	V.P.	
C.N. Marine	R.J. Tingley	President	
Department of Communications			
Radar Research & Dev	R.E. Barrington	DGCRC	
Energy Mines and Resources			
C.O.G.L.A.	M.E. Taschereau	Administrator	
N.E.B.	R. StG. Stephens	Exec. Dir.	
Research & Technology	Dr. K. Whitham	ADM	
Environment Canada			
AES Ice Centre	A.P. Beaton	Chief	
External Affaires			
Economic & Trade Branch	R.E. Latimer	ADM	
Fisheries and Oceans			
Ocean Science	G.N. Ewing	ADM	
Min of State for Sci. & Tech	Dr. A.E. Collin	Secretary	
Indian & Northern Affairs			
Northern Affairs Program	G.N. Faulkner	ADM	S
Northern Res. & Econ. Plan.	R. Glass	DG	
National Defence			
Research & Development	Dr. D. Schofield	CRAD	

LIST OF INVITEES

ORGANIZATIONS	PERSON	POSITION	PART
National Research Council Laboratories Executive Institute of Marine Dy.	Dr. J.K. Pulfer N.E. Jeffrey	Sr. V.P. Director	
Nat. Sci. & Eng Research Coun.	G.M. MacNabb	President	
Regional Industrial Expansion Marine Directorate	W. Johnson	Director	
Treasury Board Program Branch Transport	J.J. Noreau	Dep. Sec.	
N.W.T.	N. Phillpot	Chief (Services)	
Yukon	P. Kent	DM (Trans)	
Provinces Manitoba Nfl'd & Labrador Nova Scotia Quebec	J. Wallace C.C. Granter G. Etienne J. Girard	Mgr. Trans. Prog. ADM (Industry) Ex. Dir (Dev) Dir. (Marine)	
International U.S. MARAD	V.W. Rinehart F. Seibold	Dir. (OMT) OMT	
Seminar Moderators TDC TDC TDC CMTA	R. Bertrand M Audette I. Bayly D. Hearnshaw	TDC TDC TDC CCG	M M M M

PRIVATE SECTOR

Shipowners Cda Steamship Lines Inc.	R. Lemay	President	
" " " "	D. Motion	Supt. Eng.	
" " " "	W.J. Johnstone	Sr. V.P.	
" " " "	E. DeRoche	V.P. Marine	
" " " "	H. Abruzzese	Dir. Tech. Ser.	
Canarctic Shipping Ltd	M. Luce	Ex. V.P.	S
" " " "	A. Sneyd	Mgr. R&D	S
Dom. Marine Assoc/CSA	T.N. Hall	President	
Fed. Commerce & Nav.	M. Bell	Sr. V. P.	
" " " "	A. Burnett	Mgr. Offshore Pro.	
Halco Inc.	R. Carson	Sr. V.P.	
Misener Transportation	D. Gardiner	President	
N.M. Paterson & Son	R. Paterson	Ex. V.P.	

LIST OF INVITEES

ORGANIZATIONS	PERSON	POSITION	PART
Shipowners (cont.)			
Shipping Fed. of Can.	J.A. Crichton	President	
Sofati/Soconav	G. Bazinet	President	
U.L.S. Int'l (Can.)	D. Maxwell	President	
Shipbuilders			
Burrard Yarrows	D.W. Challinor	President	
Can. Ship. & Repairs Assoc.	H. Walsh	President	
Cdn. Shipbuilding & Eng. Ltd.	J. Elder	President	
Davie Shipbuilding	M. Provencher	Ex. V.P.	
Marine Industries	G.C. Veronneau	Ex. V.P.	
Port Weller	F. Taylor	Tech. Dir.	
Purvis Navcon Shipbuilders	L.D. Hengeveld	President	
Vancouver Shipbuilders	W.D. Traill	President	
Engine Builders			
Bombardier	L. Beaudoin	Chm. & Pres.	
MAN Canada	D.W. Mittler	President	
" "	P. Fensslein	Sales Mgr.	
Pratt & Whitney Canada	D. Caplan	President	
Sulzer Canada	J.C. Godel	President	
Research Org's			
B.C. Research	Dr. T. Howard	Director	
C-Core	J. Clark	Director	
C-Fer	A.E. Pallister	Chairman	
Oil & Gas Companies			
Arctic Petroleum Op. Assoc	Dr. G.H. Jones	Exec. Dir.	
Canterra Resources	B. Issautier	President	
Cdn Gas Assoc.	I. McNabb	President	
Cdn Petroleum Assoc.	I. Smyth	Ex. Dir.	
Canmar	B.M. Johansson	Grn Mgr. Eng.	
Charter Oil Co.	W.B. Kippen	Chairman	
East. Petroleum Op. Assoc.	L. Bouckhout	Chairman	
Dome/Canmar	J. Beddome	President	
Esso Petroleum	H.M. Westlake	Mgr. Marine	
Esso Resources	D. Loughheed	Ex. V.P.	
Gulf Canada Resources	H. Carlyle	President	
Independent Petroleum Assoc.	R. Andrews	Mgr. Dir.	
Mobil Oil Canada	D.G. Marrs	President	
" " "	Dr. G.Vance	Tech. Adv.	
Panarctic Oils Ltd.	C. Hetherington	Chairman	
" " "	G. Alexander	Dir. Mktg.	
Petro-Canada	J. Stanford	President	
Petro-Canada Products	P. Dupuis	Ex. V.P.	
Polar Gas Project	J.D. Houlding	President	
Trans Canada Pipeline	D. Russell	Sr. Mgr. Proj. Dev	

LIST OF INVITEES

ORGANIZATIONS	PERSON	POSITION	PART
Mining Companies			
Baffinland Iron Mines	M. Watts	President	
Borealis Exploration	R.T. Cox	President	
Cominco	W.G. Wilson	CEO	
Hudson Bay Mining	C.K. Taylor	President	
Kidd Creek	D.C. Lowe	President	
Mining Assoc of Can.	Dr. C.G. Miller	Mgr. Dir.	
Nanisivik Mines	J. Farquharson	President	
" "	R. Keeting	Mgr. Logistics	
Noranda	A. Powis	Chairman & CEO	
Westmin Resources	P.M. Marshall	CEO & Pres.	
Universities			
Assoc. of Cdn Universities	P Adams	Ex. Dir.	
Dalhousie	J. Gratwick	Professor	
Memorial	W. Milne	Professor	
U.B.C	H. Vaughan	Professor	
Financial			
Bank of Nova Scotia	Miss. L. Cannon	Gen. Mgr.	
Bank of Montreal	F.R.G. Hardy	V.P.	
Cdn Bankers Assoc.	R.M. McIntosh	President	
Cdn. Imp. Bank of Comm.	L.W. MacLachlan	V.P.	
McLeod, Young & Weir	P. Maika	V.P.	
Nat. Bank of Can.	P-A. Malo	V.P.	
Royal Bank	K.G. Wilson	V.P.	
Royal Trust	R.P. Vaillancourt	V.P.	
Toronto-Dom. Bank	S.J. Wilson	Asst. G.M.	
Insurance			
Cdn. Bd. of Marine Underwrit.	R.G. Wildish	President	
	T. Asnani	Hull Comm.	
	P. Down	Hull Comm	
Osborn & Lange	J. Cantello	V.P.	
Reed Stenhouse	W. Painter	V.P. Marine	
Tomenson Saunders	F. Howden	Mgr. Marine	
Classification Societies			
Amer. Bureau of Shipping	G. Mason	Prin. Sur.	
Det Norske Veritas (Can.)	A. Murray	Sr. Res. Eng.	
Lloyd's Register of Shipping	T.S. Leighton	Sr. Prin. Sur.	
" " " "	G. Almond	Prin. Ship Sur.	
Arctic Consultants			
Acres Consulting	H.C. Rynard	President	
Albery, Pullerits, Dickson	A.C. Albery	Sr. Part.	S
Arctec Canada Ltd.	I. Glen	President	S
" " "	N. Nawwar	V.P.	S
Arctic Offshore Design	W. Cleaver	President	
Arctic Transportation	J. Matteson	Ex. V.P.	
N.V. Laskey & Assoc.	N. Laskey	President	

LIST OF INVITEES

Attachment 3

ORGANIZATIONS	PERSON	POSITION	PART
Arctic Consultants (cont)			
Carter	D. Carter	Principal	
Coldstream Maritime	S. Mathews	President	
D.F. Dickins	D. Dickins	President	
Davis Engineering	F. R. Livingstone	V.P.	
Fenco/Lavalin	Dr. H. Kivisild	V.P.	
GasTops Ltd	B. McIsaac	President	
German & Milne	A. Davidson	V.P.	S
H.J. O'Connell Ltd	O. Kredl	V.P.	
Int'l Paints (Can)	F.P. Baker	President	
Keinonen Arctic Con.	A. Keinonen	Principal	
Martec	A.Y. McLean	President	
Melville Shipping	R.A. Dick	V.P.	S
" "	E.T. Thompson	Mgr. Eng.	S
Nordco	F. Smith	President	
Norland Sci. & Eng	D. Lapp	President	
Peter Hatfield Ltd.	P. Hatfield	President	
Robert Allan Ltd.	R. Allan	President	
Saint John Marine Consultants	L. Wilkins	President	
Shawinigan-Ebastec	D. Clemo	Director	
Swan Wooster	M.D.H. Dickson	V.P.	
Tower Arctic Ltd.	Dr. G. Jacobsen	President	
Versatile Vickers	B.P. Charbonneau	President	
Wartsila Arctic	E. MaKinen	President	
Other	J.G. German		
Instrumentation			
Intera Technologies	B.L. Bullock	President	
" "	R. Lowry	Sr. Scientist	
Leigh	D.G. Loughheed	Dir. Mar.	
Sperry Canada	A. Warren	Mgr. Marine	
Weir-Jones Eng.	I Weir-Jones	President	
Marine Press			
Seaports & the Shipping Wld.	B. Gallery	Pub/Ed	
Cdn Shipping & Marine Eng	B. Brophy	Editor	
Oilweek	V. Humphreys	Editor	
Northern Miner	M.R. Brown	Pub/Ed	
Offshore Resources	D. Cumming	Editor	
Professional Assoc			
Arctic Inst. of N.A.	Dr. P. Schiedermaun	Ex. Dir	
C.A.R.C.	P Burnett	Exec Dir.	
Cdn Instit. of Marine Eng.	H. Arnsdorf	Ex. Dir.	
Cdn Maritime Law Assoc.	B.N. Malott	Sec. Treas.	
" " " "	J. Carton	Legal Counsel	
Inuvaluit Dev. Corp	R. Pokiak	Chairman	
M.A.B.			
Ocean Indus. Dev. Office	Capt. H. Plant	Ex. Dir	
Seatronics Technologies Ltd.	J. Heyrman	President	

Page 5

Legend

S = Speaker
M = Moderator



Transport
Canada

Transports
Canada

Attachment 4 1/2



M.V. Arctic Seminar 1985

"Advance Announcement"

Transport Canada will hold a two-day seminar to present the findings of its major arctic marine research and development program centring on the ice class vessel, the M.V. Arctic. The seminar will take place September 16 and 17, 1985, at the Four Seasons Hotel, in Montreal. Sponsored by the Canadian Marine Transportation Administration in support of the Marine Transportation R&D Advisory Board, the seminar is being organized by the Transportation Development Centre.

Aimed at senior corporate and government decision-makers, the seminar will report on the experience gained in commercial arctic shipping through the M.V. Arctic research program.

Attendance at the conference is by invitation only. Please consider this announcement as your advance notice. The list of invitees is expected to be finalized by the end of June and will serve as the basis for issuing formal invitations with the full seminar program. For further information concerning the seminar, kindly contact Mr. Tom Peirce, Transportation Development Centre, (514) 283-0043.

All seminar activities will be complimentary. Attendees, however, are responsible for hotel accommodations and other personal expenses. A block of rooms has been reserved at the Four Seasons Hotel and affiliated hotels in Montreal for the nights of September 15 and 16, 1985. Reservations should be made as soon as possible, using the enclosed reservation card.

Canada



Transports
Canada

Transport
Canada

Attachment 4. 2/2



Séminaire 1985 sur l'expérience du N.M. Arctic

"Invitation officielle"

Transports Canada organise un séminaire d'une durée de deux jours afin de diffuser les résultats de son programme recherche et développement (R&D) en navigation maritime dans l'Arctique mettant en oeuvre l'Arctic, un navire renforcé pour la navigation dans les glaces. Parrainé par l'Administration canadienne des transports maritimes et à la demande du Conseil consultatif de la R&D en transports maritimes, ce séminaire aura lieu les 16 et 17 septembre 1985 à Montréal; son organisation a été confiée au Centre de développement des transports.

Ce séminaire, qui s'adresse aux cadres supérieurs des sociétés privées et des organismes gouvernementaux intéressés, donnera l'occasion de faire le point sur l'expérience acquise grâce au programme expérimental d'exploitation commerciale d'un cargo brise-glace dans l'Arctique.

Seules les personnes invitées pourront assister aux conférences. Prière de considérer la présente comme une invitation officielle. La liste définitive des invités sera connue d'ici fin juin. Les personnes dont le nom figurera sur la liste recevront une invitation officielle, accompagnée du programme des activités. Pour de plus amples informations, contacter M. Tom Peirce au Centre de développement des transports à: (514) 283-0043.

Aucuns frais d'inscription ne sont prévus, mais ceux de logement et autres dépenses personnelles seront à la charge des participants. Nous avons réservé un certain nombre de chambres à l'hôtel Le Quatre Saisons, lieu du séminaire, et à d'autres hôtels de la même chaîne de Montréal, pour les 15 et 16 septembre 1985. Veuillez faire vos réservations le plus tôt possible, en utilisant la carte-réponse ci-jointe.

Canada



Transport
Canada

Transports
Canada

Attachment 5
1/2



6th August, 1985

Dear

I have much pleasure in inviting you to attend the M.V. Arctic seminar to be held on the 16th and 17th September, 1985, at the Four Seasons Hotel in Montreal.

The M.V. Arctic is the western world's most ice-capable cargo vessel, being a 28,000 dwt bulkcarrier built to Ice Class 2 of the Canadian Arctic Shipping Pollution Prevention Regulations. Constructed in 1978 as a joint venture between the Canadian government and a consortium of Canadian shipowners, the M.V. Arctic has now completed seven years of service, operating to the full extent of her arctic capability. In parallel with her scheduled commercial missions, she has supported many major programs of technological and operational research.

The purpose of the Seminar is to highlight the experience gained from these programs for the benefit of all sectors of the Canadian marine community and enhance the interest in the future of arctic commercial shipping. We also wish to promote further cooperative research with the marine community in matters of shared interest, particularly those relating to safe and efficient navigation extending into the arctic winter and the growth of commercial and industrial benefits to Canada.

The Seminar programme and list of invitees are attached for your information. I hope you will be able to join us for this milestone event. Please convey your intent to Mr. Tom Peirce, Transportation Development Centre, Montreal, (514) 283-0043 by 23rd August, 1985.

Yours sincerely,

Administrator,
Canadian Marine Transportation
Administration

Attached
/dl

M.V. Arctic Seminar 1985

Sponsors

Canadian Marine Transportation Administration
Marine Transportation R & D Advisory Board
Transport Canada, Research & Development

Séminaire 1985 sur le N.M. Arctic

Organismes parrains

Administration canadienne du transport maritime
Conseil consultatif de R & D sur le transport maritime
Transports Canada, Recherche et développement

Canada



Transport
Canada

Transports
Canada

Attachment 5
2/2



Le 6 août 1985

Monsieur,

J'ai le grand plaisir de vous inviter à participer au Séminaire 1985 sur le N.M. Arctic qui se tiendra les 16 et 17 septembre 1985 à l'hôtel Le Quatre Saisons de Montréal.

Comme vous le savez, le N.M. Arctic est un vraquier brise-glace de 28 000 tonnes de port en lourd, répondant à la cote arctique 2 de la Loi sur la prévention de la pollution des eaux arctiques, ce qui en fait le navire marchand le mieux adapté à la navigation dans les glaces du monde occidental. Il a été construit en 1978 dans le cadre d'un programme conjoint associant le gouvernement fédéral à un consortium d'armateurs canadiens. Au cours des sept années de service, l'Arctic a été exploité au maximum de ses aptitudes arctiques et, parallèlement à ses périples réguliers, a servi à la mise en oeuvre de nombreux programmes de recherche et de développement importants.

Le Séminaire 1985 se propose de mettre en évidence les connaissances résultant de ces programmes, d'en faire profiter tous les secteurs des milieux maritimes canadiens et de promouvoir la navigation commerciale dans l'Arctique. Il cherche, en outre, à stimuler davantage la coopération entre ces milieux, notamment dans les domaines qui leur tiennent le plus à coeur, c'est-à-dire sécurité et rentabilité de la navigation, prolongation de la saison de navigation arctique et croissance commerciale et industrielle du pays.

Vous trouverez en annexe le programme d'activités du Séminaire ainsi que la liste des participants.

Espérant que vous puissiez participer à cet événement marquant pour le monde maritime, je vous saurais gré de bien vouloir communiquer avec M. Tom Peirce, Centre de développement des Transports à Montréal, au plus tard le 23 août 1985, au (514) 283-0043.

Veuillez agréer, Monsieur, l'assurance de mes sentiments les meilleurs.

Administration canadienne des
transport maritimes

Administrateur

Pièces jointes

M.V. Arctic Seminar 1985

Sponsors

Canadian Marine Transportation Administration
Marine Transportation R & D Advisory Board
Transport Canada, Research & Development

Séminaire 1985 sur le N.M. Arctic

Organismes parrains

Administration canadienne du transport maritime
Conseil consultatif de R & D sur le transport maritime
Transports Canada, Recherche et développement

Canada

MV. ARCTIC SEMINAR

<u>Topic</u>	<u>Structural Performance (local effects)</u>		
<u>Date</u>	September 16, 1985		
<u>Period</u>	13.30 - 14.45	Presentation	30 mins
		Questions	45 mins
<u>Panel</u>	<u>Moderator</u>	R. Bertrand	TDC
	<u>Speaker</u>	I. Glen	ACL
	<u>Panelist</u>	G. Almond	Lloyds
		F. Taylor	P. Weller

Seminar Objective

The Seminar is intended to highlight the experience gained from the MV. Arctic programs of research and to enhance the interest in the future of arctic commercial shipping. To those ends, an audience of senior executives and decision-makers is being invited from the Canadian marine community through whom the process of disseminating this experience will be initiated. Accordingly the subject matter of the Seminar, although technological, has to be presented in a manner which addresses and stimulates the varied interests of a high level audience and inspires their confidence in the commercial use of ships for arctic development.

Topic Presentation

The presentation of this topic should be structured to bring out the main findings, conclusions and implications involved in terms which reflect positively on such overall matters as the safety, reliability, dependability and, if possible, the viability of arctic cargo ships based upon the MV. Arctic experience.

Session Framework

Opening by Moderator

Topic by Speaker

The above objectives suggest that the subject matter should be presented on a broad front of findings using detail only as necessary to substantiate the conclusions reached. In other words, the emphasis should be on the results rather than the methodology of data analysis. The following framework is suggested.

- The ship's areas investigated and why
- The structural arrangement in these areas
- Reliability of database
- Ice pressures (specification and actuals)
- Hull stresses and strains
- The important difference between yielding and cracking.
- Summation (design, construction, operation)

Question Period

The audience will be encouraged to ask questions. These will be in written form on cards supplied and will be sorted and prioritised by the moderator. The speaker will respond and may be assisted by the panelists with supplementary comments as appropriate.

Topic Ice transiting Performance (Continuous mode)

- The meaning of the continuous mode
- The results of level ice performance
- The results of broken channel performance
- The effects of power, hull geometry, bubbler, coating, etc
- Model scale correlation
- Summation (designers, operators, etc)

Topic Ice transiting Performance (manoeuvring)

- Manoeuvrability needs of ice class vessels
- Directional stability in ice
- Turning circle in ice
- Effects of hull shape, heel, bubbler.
- Summation (designers, operators, etc)

Topic Ice transiting Performance (ramming mode)

- The meaning of the ramming mode
- The ramming cycle (as performed and optimum)
- The ramming strategy (speed and energy)
- The transition zone and its advantages
- The effects of power, hull geometry, bubbler etc
- Summation (designers, operators, etc)

Topic Propulsive Performance

- Description of the propulsion plant
- Three types of ice signatures
- Envelopes of ice torques and thrusts
- System control and response
- Shaft and gearing considerations
- Techno-economics
- Summation (designers, operators, etc)

Topic Structural Performance (global effects)

- The meaning of global effects
- The hull areas investigated and why
- The test area and program
- Hull girder loads and safety
- Bow loads and safety
- Brittle fracture considerations
- Local plate and frame responses
- Summation (designers, operators, etc)



Transport
Canada

Transports
Canada



M.V. ARCTIC - PARTICULARS

Flag: Canadian
Operators: Canarctic Shipping Company Limited, Ottawa Ontario
(Canarctic Shipping Company Limited is a joint venture between the Federal Government and North Water Navigation. North Water Navigation is equally held by Upper Lakes Shipping, Canada Steamship Lines and Federal Commerce & Navigation)
Owners: Royal Trust Company
Builders: Port Weller Dry Docks, St. Catharines, Ontario

Principal Dimensions:

Length Overall: 209.55 metres
Breadth: 22.932 metres
Summer Draft: 10.903 metres
Tonnage (dwt): 28,448 tonnes
Total hold capacity: 36,051.4 Cu. m.
Oil cargo capacity: 16,000 tonnes

Main Engine: MAN 14V 52/55A

14,770 BHP @ 450 rpm

Seaspeed: 15 kts laden

Propellor: Lips controllable pitch, 143 rpm
in Wageningen fixed nozzle

Classification:

- Ice-Class - Lloyds 1A Super
- Arctic Class 2 CASPPR
- Approved St. Lawrence Seaway Navigation.

THE M.V. ARCTIC SEMINAR 1985

PROGRAMME

(A Canadian Experience in Arctic Commercial Ships)

The Seminar is sponsored by the Canadian Marine Transportation Administration in support of the Marine Transportation R&D Advisory Board and is organised by the Transportation Development Centre.

Attachment 7
1/2

Four Seasons Hotel
1050 Sherbrooke St. W.
Montreal, (Quebec)
Salon Le Printemps
September 16/17 1985

Canada

PROGRAMME

September 15, 1985

1900 - 2200 Registration

September 16, 1985

0730 - 0900 Registration

0900 - 0930 Welcome: Dr. P. Camu, Seminar Chairman

Opening Address: Mr. R.A. Quail, Administrator

Canadian Marine Transportation Administration and

Mr. R. Mayes, Director General

Transport Canada, Research & Development

Topic: An Arctic Overview

Speaker: Mr. G.N. Faulkner

Asst. Deputy Minister, Indian & Northern Affairs

1000 - 1045 Topic: M.V. Arctic Profile

Speaker: Mr. R.A. Dick, Vice-President

Melville Shipping Limited

1045 - 1100 COFFEE

1100 - 1215 Topic: Propulsive Performance

Speaker: Mr. E. Thompson, Manager of Engineering

Melville Shipping Limited

Propulsion Panel:

Moderator: Mr. I. Bayly, TDC

Panelists: Mr. H. Abruzzese, Director Technical Services

Canada Steamship Lines Inc.

Mr. P. Fensslein, Sales Manager

MAN - GHH (Canada) Inc.

1215 - 1330 LUNCH RECESS

1330 - 1445 Topic: Structural Performance - local effects

Speaker: Mr. I. Glen, President

Arctec Canada Limited

1445 - 1500 COFFEE

1500 - 1615 Topic: Structural Performance - global effects

Speaker: Mr. A. Davidson, Vice-President

German & Milne Inc.

Structural Panel:

Moderator: Mr. R. Bertrand, TDC

Panelists: Mr. F. Taylor, Technical Director

Port Weller Drydock Ltd.

Mr. G. Almond, Principal Ship Surveyor

Lloyd's Register of Shipping (Canada)

1615 - 1630 Closing Remarks: Dr. P. Camu, Chairman

Marine Transportation R&D Advisory Board

1800 - 1900 M.V. Arctic Operators' and Users' Reception - L'Atrium

1900 - 2100 Dinner - Salle Pierre de Coubertin

- Guest Speaker Dr. J. Smith

Assoc. Deputy Minister, Transport Canada

PROGRAMME

September 17, 1985

0830 - 0835 Opening Remarks: Dr. P. Camu, Chairman

Marine Transportation R&D Advisory Board

0835 - 0930 Topic: Ice Transiting Performance - Continuous

Speaker: Mr. A.C. Albery, Senior Partner

Albery, Pullerits, Dickson & Associates

0930 - 1000 Topic: Ice Transiting Performance - Manoeuvring

Speaker: Mr. A. Davidson, Vice-President

German & Milne Inc.

1000 - 1015 COFFEE

1015 - 1115 Topic: Ice Transiting Performance - Ramming

Speaker: Dr. A. Nawwar, Vice-President

Arctec Canada Limited

Ice Transiting Panel:

Moderator: Mr. D. Hearnshaw, Chief Technical, Fleet

Systems, Canadian Coast Guard

Panelists: Mr. J.Y. Clarke, Director General, Fleet

Systems, Canadian Coast Guard

Dr. S.J. Jones, Head, Arctic Vessel Research

Institute Marine Dynamics, NRC

1115 - 1230

Topic: Ship Operations - From Research to Practice

Speaker: Mr. A. Sneyd, Manager of Research &

Development, Canarctic Shipping Company Limited

Ship Operations Panel:

Moderator: Mr. M. Audette, TDC

Panelists: Mr. W. Ellwood, Canada Marine

Transportation Administration

Mr. R. Lowry, Senior Scientist,

Intera-Technologies Ltd.

1230 - 1330 LUNCH RECESS

1330 - 1430 Topic: M.V. Arctic - The Challenge of the Future

Speaker: Mr. M. Luce, Executive Vice-President

Canarctic Shipping Company Limited

1430 - 1500 Closing Address: Dr. P. Camu, Chairman

Marine Transportation R&D Advisory Board.



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Canada

Transports
Canada

Attachment 8



M.V. ARCTIC SEMINAR 1985
Synopsis of Presentations

AN ARCTIC OVERVIEW

A BROAD INTRODUCTION TO THE ARCTIC, ITS GEOGRAPHY, RESOURCE DEVELOPMENT SINCE PRUDHOE BAY AND THE VARIOUS IMPACTS AND PERSPECTIVES OF PAST, CURRENT AND FUTURE ACTIVITIES AS THEY INFLUENCE THE NEED FOR COMMERCIAL SHIPS.

M.V. ARCTIC PROFILE

A DESCRIPTION OF THE M.V. ARCTIC INCLUDING HER ORIGIN, PURPOSES, ROUTES, SEASONS, RELATED OPERATING ENVIRONMENT AND COMMERCIAL TRADING AND DEDICATED RESEARCH VOYAGES.

M.V. ARCTIC - PROPULSIVE PERFORMANCE

A PRESENTATION OF THE PRINCIPAL FINDINGS ON THE EFFECTS OF ICE-INGESTION ON THE PERFORMANCE OF THE SHIP'S PROPULSION SYSTEM WHICH IS SHOWN TO BE EFFECTIVE, ECONOMICAL AND SAFE FOR ARCTIC OPERATIONS.

M.V. ARCTIC - STRUCTURAL PERFORMANCE

A PRESENTATION IN TWO PARTS WHICH HIGHLIGHTS THE FINDINGS AND IMPLICATIONS OF THE EFFECTS OF ICE INTERACTION IN VARIOUS OPERATING MODES ON:

- I) THE BOW STRUCTURE (LOCAL EFFECTS)
- II) THE OVERALL HULL GIRDER (GLOBAL EFFECTS).

THE STRUCTURAL EFFECTS ARE DESCRIBED WITH REGARD TO THE LOADS, PRESSURES AND STRESSES EXPERIENCED IN THE VARIOUS ICE ENVIRONMENTS AND THE CONSEQUENT IMPACTS ON STRUCTURAL STRENGTH REQUIREMENTS FOR ARCTIC CLASS SHIPS.

M.V. ARCTIC - ICE-TRANSITING PERFORMANCE

THIS SESSION COMPRISES THREE MAIN PRESENTATIONS ON THE FOLLOWING MODES OF SHIP PROGRESSION THROUGH VARIOUS ICE CONDITIONS, NAMELY:

- I) THE CONTINUOUS-MODE
- II) THE RAMMING-MODE
- III) THE MANOEUVERING-MODE

IN EACH CASE, THE FINDINGS WITH RESPECT TO THE M.V. ARCTIC WILL BE PRESENTED AND WILL INCLUDE THE EFFECT OF SHIP'S POWER, HULL SHAPE AND MEANS TO REDUCE FRICTION ON THE SPEED OF PROGRESSION. THE SPECIAL EFFECT OF SHIP-HANDLING TACTICS TO IMPROVE ICE-TRANSITING PERFORMANCE IS ALSO ADDRESSED.

SHIP-OPERATIONS - FROM RESEARCH TO PRACTICE

THIS PRESENTATION WILL DESCRIBE THE BROAD RESEARCH EFFORT WHICH HAS BEEN DEVELOPED AT CANARCTIC AND THEN HIGHLIGHT THE RESULTS OF ADVANCES MADE IN SPECIFIC AREAS OF ARCTIC NAVIGATION AND COMMUNICATION.

M.V. ARCTIC - THE CHALLENGE OF THE FUTURE

THIS PRESENTATION WILL DESCRIBE THE CURRENT PROGRAM OF MODIFICATIONS BEING UNDERTAKEN ON THE M.V. ARCTIC. THE BOW-REDESIGN, ICE CLASS UPGRADING AND CONVERSION TO AN OBO ARE ADDRESSED TOGETHER WITH THE IMPACT OF THESE CHANGES ON THE VESSEL'S OPERATING CAPABILITIES. THE UPGRADING OF THE VESSEL WILL PRESENT NEW OPPORTUNITIES FOR RESEARCH AND MAJOR CHALLENGES IN TERMS OF NEW COMMERCIAL VENTURES.

M.V. Arctic Seminar 1985

Sponsors

Canadian Marine Transportation Administration
Marine Transportation R & D Advisory Board
Transport Canada, Research & Development

Séminaire 1985 sur le N.M. Arctic

Organismes parrains

Administration canadienne du transport maritime
Conseil consultatif de R & D sur le transport maritime
Transports Canada, Recherche et développement

Canada

*The Operators and Users of the M.V. Arctic
cordially invite you to
A Reception
to be held in
The Atrium
Four Seasons Hotel, Montreal
September 16, 1985 from 6 - 7 pm.*

*Les gestionnaires et affrèteurs du N.M. Arctic
vous invitent cordialement à
une réception
donnée dans
l'Atrium
Hôtel Le Quatre Saisons de Montréal
le 16 septembre 1985 de 18 h à 19 h*

*Transport Canada cordially invites you to
The M.V. Arctic Seminar Dinner
to be held in
Salle Pierre de Coubertin
Four Seasons Hotel, Montreal
September 16, 1985 at 7 pm.*

*Transports Canada vous invite cordialement à
un dîner-conférence au sujet du N.M. Arctic
donné dans
la salle Pierre de Coubertin
Hôtel Le Quatre Saisons de Montréal
le 16 septembre 1985 à 19 heures*

M. V. Arctic Seminar 1985
Séminaire 1985 sur le N. M. Arctic

Question:

Name/Nom:

LIST OF ATTENDEES

ORGANIZATIONS	PERSON	POSITION	PART
SEMINAR PRINCIPALS			
C.M.T.A.	R.A. Quail	AMTA	S
M.A.B.	P. Camu	Chairman	S
T.C. R&D	R. Mayes	DGRD	S
GOVERNMENT INVITEES			
Transport Canada			
TC	J. Smith	ADM	
TC R&D	M. Brenckmann	DRPD/X	
TDC	N.E. Rudback	ED/TDC	
TDC	R. Nishizaki	Sr. Proj. Off.	
TDC	C. Nowicki	Proj. Officer	
Marine Planning	A.P. Gagnon	DMPF	
" "	W. Ellwood	CMRD/M	
CCG Fleet Systems	J.Y. Clarke	DGFS/M	
" "	J. Grinstead	CGNS/M	
CCG Ship Safety	J. Hornsby	DGSS/M	
CCG Aids & Waterways	J. Lorquet	Ch. Aids Div.	
CCG Planning & Prog.	G. Boucher	A/DCGM/M	
Public Affairs	D. Beaulieu		
Energy Mines and Resources			
N.E.B.	R. White	Asst. Dir. Eng.	
Environment Canada			
AES Ice Centre	A.P. Beaton	Chief	
External Affaires			
Economic & Trade Branch	I.G. Lochhead	Dir. of Trans.	
Fisheries and Oceans			
Ocean Science	Dr. R. McMullen	ADM	
Indian & Northern Affairs			
Northern Affairs Program	G.N. Faulkner	ADM	S
Northern Res. & Econ. Plan.	H. Wirth	Head of Trans	
M.O.S.S.T.	R. Lawford	Sr. Policy Analyst	
National Defence			
Research & Development	Dr. T. Garrett	Dir. Tech. Div.	
National Research Council			
Institute of Marine Dy.	Dr. S.J. Jones	Hd. Arctic Vess. Re.	
Regional Industrial Expansion			
Marine Directorate	A. Morrison	Marine Advis. (Ind)	
N.W.T.	N. Phillpot	Chief (Services)	

LIST OF ATTENDEES

ORGANIZATIONS	PERSON	POSITION	PART
Provinces			
Nfld & Labrador	I. Ford	Dev. Officer	
Manitoba	J. Wallace	Mgr. Trans. Pro.	
Quebec	J. Girard	Dir. (Marine)	
International			
U.S. MARAD	V.W. Rinehart	Dir. (OMT)	
Seminar Moderators			
TDC	R. Bertrand	TDC	M
TDC	M Audette	TDC	M
TDC	I. Bayly	TDC	M
CMTA	D. Hearnshaw	CCG	M
PRIVATE SECTOR			
Shipowners			
Canada Steamship Lines Inc.	H. Abruzzese	Dir Tech. Services	
Canarctic Shipping Ltd	M. Luce	Ex. V.P.	S
" " "	A Sneyd	Mgr. R&D	S
Fed. Commerce & Nav.	A. Fischer	Commercial Rep.	
" " " "	J.S. Murray	Vice President	
Halco Inc.	R. Carson	Sr. V.P.	
Kent Line Ltd.	G. Hill	President	
U.L.S. Int'l (Can.)	D. Maxwell	President	
Shipbuilders			
Cdn. Shipbuilding & Eng. Ltd.	A. Thoms	Naval Archi.	
Davie Shipbuilding	F. Gagnon	Naval Archi.	
Marine Industries	M. Waters	Dir. Eng	
Port Weller	F. Taylor	Tech. Dir.	
Engine Builders			
MAN Canada	J. Beresford	Business Con.	
" "	P. Fensslein	Sales Mgr.	
Research Org's			
C-Fer	L. Staples	Network Offic.	
Oil & Gas Companies			
Charter Oil Co.	W.B. Kippen	Chairman	
Dome/Canmar	K.J. Strain	Sr. V.P. Drilling	
Esso Petroleum	H.M. Westlake	Mgr. Marine	
Mobil Oil Canada	D. North	Sr. Staff Eng.	
Mobil Shipping	P.C. Dahan	V.P. Marine Offsho.	
Trans Canada Pipeline	R. Frayne	Sr. Advisor Eng.	

LIST OF ATTENDEES

ORGANIZATIONS	PERSON	POSITION	PART
Mining Companies			
Cominco	G. Thompson	Gvt. Liaison	
"	J. Murphy	Traffic Mgr.	
Nanisivik Mines	G. Farquharson	President	
"	R. Keeting	Mgr. Logistics	
Universities			
Assoc. of Cdn Universities	P Adams	Ex. Dir.	
Dalhousie	C. Lamson	Res. Assoc.	
Memorial	W. Milne	Professor	
Financial			
Cdn. Imp. Bank of Comm,	C. Rothwell	V.P. Trans.	
Royal Trust	R.P.Vaillancourt	V.P.	
Insurance			
Cdn. Bd. of Marine Underwrit.	R.G. Wildish	President	
	T. Asnani	Hull Comm.	
	N. Grieve	Hull Comm	
Osborn & Lange	S. Grana	Mgr. Marine	
Reed Stenhouse	W. Painter	V.P. Marine	
Classification Societies			
Amer. Bureau of Shipping	Y.K. Chen	Princ. Eng.	
Det Norske Veritas (Can.)	A. Murray	Sr.Res.Eng.	
Lloyd's Register of Shipping	T.S. Leighton	Sr. Prin. Sur.	
" " " "	G. Almond	Prin. Ship Sur.	
Arctic Consultants			
Albery, Pullerits, Dickson	A.C. Albery	Sr. Part.	S
Allerdice & Assoc.	D. Allerdice	President	
Arctec Canada Ltd.	I. Glen	President	S
" " "	N. Nawwar	V.P.	S
CGEE Alsthom	A. Vaird	Marine Con	
" " "	J. Tourneur	Marine Con	
Donald Carter	D. Carter	Principal	
N.V. Laskey & Assoc.	N. Laskey	President	
Coldstream Maritime	S. Mathews	President	
Davis Engineering	F. Vandenberghe	Dir. Mark.	
Fenco/Lavalin	Dr. H. Kivisild	V.P.	
German & Milne	A. Davidson	V.P.	S
H.J. O'Connell Ltd	O. Kredl	V.P.	
Int'l Paints (Can)	B. Carpenter	V.P. Eastern Reg.	
Lavalin	J.A.S. Peck	Consultant	
Logistec	M. Paquin	Res. Assist.	
"	R. Robillard	Exec. Assist	
Martec	J. Warner	V.P.	
Melville Shipping	R.A. Dick	V.P.	S
Norland Sci. & Eng	D. Lapp	President	
Saint John Marine Consultants	J. Milne	Mgr Comm Ops	

Attachment 11

LIST OF ATTENDEES

ORGANIZATIONS	PERSON	POSITION	PART
Arctic Consultants (cont.)			
Shawinigan-Ebastec	D. Clemo	Director	
Wartsila Arctic	E. MaKinen	President	
" "	V. Ropponen		
Instrumentation			
Intera Technologies	B.L. Bullock	President	
" "	R. Lowry	Sr. Scientist	
Weir-Jones Eng.	K. Whitney	Reg. Mgr.	
Marine Press			
Seaports & the Shipping Wld.	B. Gallery	Pub/Ed	
Cdn Shipping & Marine Eng	B. Brophy	Editor	
CBC	J. Glaister	Reporter	
CBC	N. Ford	Reporter	
Professional Assoc			
Cdn Instit. of Marine Eng.	H. Arnsdorf	Ex. Dir.	
Cdn Maritime Law Assoc.	B.N. Malott	Sec. Treas.	
" " " "	J. Carton	Legal Coun.	
Salvage Assoc.	G. Deere	President	
" "	H. Rossi	Marine Eng.	
M.A.B.			
Ocean Indus. Dev. Office	Capt. H. Plant	Ex. Dir	
Pacific Regional Bd. (MAB)	T. Heaver	Reg. Chairman	

Legend

S = Speaker
M = Moderator

Attachment 12

M.V. ARCTIC 1985 EVALUATION QUESTIONNAIRE

Questions for attendees who were actually invited.

18 calls, approx 20% sample

1. Was the substance of the seminar of value to your organization?
2. Do you think that the format of the seminar, especially its attempt to limit attendance to senior people, is appropriate for the dissemination of findings of major research programs?
3. Do you have any other comments you wish to offer on the seminar?

Questions for attendees who were sent as replacements

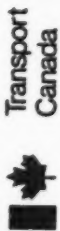
13 calls, approx 30% sample

1. Was the substance of the seminar of value to your organization?
2. Do you think that the format of the seminar is appropriate for the dissemination of findings of major research programs.
3. You replaced Mr ---- as an attendee for your company. In order to assist us to direct material to the appropriate person, should your name replace Mr. --- on our lists?

Question for invitees who declined

18 calls, approx 50%

1. You were not able to attend the recent M.V. Arctic seminar given by Transport Canada. In order to assist us in evaluating this event, may we know if your inability to attend stemmed from a conflict in dates or from some other reason?



Transport
Canada



M.V. Arctic Seminar 1985

*This certificate is presented
on behalf of Transport Canada
to:*

Séminaire N.M. Arctic 1985

*Ce certificat est présenté par
Transports Canada
à:*

*as an expression of sincere thanks
and appreciation for a most valuable
and professional presentation made
on the occasion of the Seminar held
in Montreal, September 16 and 17, 1985.*

*en témoignage d'appréciation de
l'excellente communication présentée
à l'occasion du séminaire N.M. Arctic,
tenu à Montréal les 16 et 17 septembre
1985.*

*Administrator
Canadian Marine
Transportation
Administration*

*Administrateur
Administration canadienne
du transport maritime*

*Président
Conseil consultatif
de R & D sur le
transport maritime*

Chairman

*Marine Transportation
R & D Advisory Board*

Canada



Transport
Canada

Transports
Canada

Attachment 14
1/5



December 9, 1985

Dear Mr.

On behalf of the principals, I have much pleasure in sending you the enclosed certificate in grateful appreciation of the excellence of your contribution to the M.V. Arctic Seminar.

You will be pleased to know that there have been many post-seminar compliments about the event which have attested to the high quality of the presentations and the stature of the speakers.

The enclosed memento is sent to you in recognition of the enthusiasm which you so successfully helped to inspire in such a diverse audience.

Yours sincerely,

R. Bertrand
Seminar Organization

Transportation Development Centre
Complex Guy Favreau
Suite 601, West Tower
200 Dorchester Blvd., West
Montreal, Quebec
H2Z 1X4

M.V. Arctic Seminar 1985
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Organismes parrains
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Transports Canada, Recherche et développement

Canada



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Attachment 14
2/5



December 16, 1985

Dear Mr.

During the recent MV. Arctic Seminar great interest was expressed by many members of the audience in receiving a synopsis of the various subject presentations for permanent record of the event.

Accordingly, abbreviated transcripts of the seminar have been prepared and it is with much pleasure that, on behalf of the principals, I enclose a copy herewith for your information.

Yours sincerely,

*R. Bertrand
Seminar Organization*

*/dl
Encl.*

*Transportation Development Centre
Complex Guy Favreau
Suite 601, West Tower
200 Dorchester Blvd., West
Montreal, Quebec
H2Z 1X4*

M.V. Arctic Seminar 1985
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Conseil consultatif de R & D sur le transport maritime
Transports Canada, Recherche et développement

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Attachment 14

3/5



3rd October, 1985

Dear

As you know, the M.V. Arctic Seminar was held on 16th and 17th September at the Four Seasons Hotel in Montreal. In your response to the letter of invitation, you expressed an intention to attend the Seminar but it transpired that you were unable to be present because of other commitments or responsibilities.

We at Transport Canada are, therefore, taking this opportunity of sending to you this package which was provided to each of the attendees. Included in the package is a list of the reports which has been prepared in each of the main subject areas together with information as to how these reports may be obtained.

We trust that you will find this background literature informative and useful in connection with any future endeavors related to arctic shipping. Please do not hesitate to address any questions which you or your staff may have to the undersigned.

Yours truly,

Richard Bertrand
Seminar Organisation

/dl
Encl.

Transportation Development Centre
Complexe Guy Pavreau
200 Dorchester Blvd. West
Suite 601, West Tower
Montreal, Quebec H2Z 1X4

M.V. Arctic Seminar 1985
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Transport Canada, Research & Development

Séminaire 1985 sur le N.M. Arctic
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Administration canadienne du transport maritime
Conseil consultatif de R & D sur le transport maritime
Transports Canada, Recherche et développement

Canada



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Attachment 14
4/5



October 28, 1985

Dear Mr

As you know, the M.V. Arctic Seminar was held on 16th and 17th September at the Four Seasons Hotel in Montreal. In your response to the letter of invitation, it transpired that you were unable to be present because of other commitments or responsibilities.

A number of principal subjects were presented and discussed at the Seminar most of which are covered in the attached brochure which we, at Transport Canada, have the pleasure in sending you for your information.

The brochure lists the reports which have been prepared in each of the subject areas and indicates how these may be obtained. We trust that you will find this background literature informative in any future endeavours related to arctic shipping. Please do not hesitate to address any questions which you or your staff may have to the undersigned.

Yours truly,

Richard Bertrand
Seminar Organisation

/dl
Encl.

Transportation Development Centre
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Suite 601, West Tower
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Montreal, Quebec
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M.V. Arctic Seminar 1985
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Séminaire 1985 sur le N.M. Arctic
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Attachment 14

5/5



3rd October, 1985

Dear

As a result of the extensive research which has been carried out in recent years involving the use of the M.V. Arctic as the platform for acquiring technological, operational and commercial arctic shipping experience, a Seminar in connection with these subjects was held in Montreal on 16th and 17th September of this year.

A number of principal subjects were presented and discussed at the Seminar most of which are covered in the attached brochure which we, at Transport Canada, have pleasure in sending you for your information.

The brochure lists the reports which have been prepared in each of the subject areas and indicates how these may be obtained. We trust that you will find this background literature informative in any future endeavors related to arctic shipping. Please do not hesitate to address any questions which you or your staff may have to the undersigned.

Yours truly,

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